

ABSTRACT

A power amplifier having bias that may be automatically adjusted based on a detected output power level. The amplifier includes one or more amplifier stages operatively coupled to a control unit. The amplifier stage(s) couple together (e.g., in series) and receive and amplify an RF input signal to provide an RF output signal. A power detector detects the RF output signal level (or power) and provides a detected signal. A control unit conditions the detected signal (e.g., with a particular transfer characteristic) to provide at least one conditioned signal. A bias control generator receives the conditioned signal(s) and provides at least one bias control signal, with each bias control signal used to adjust the bias of a respective amplifier stage. The bias adjustment is performed in a manner to achieve the desired level of linearity while minimizing power consumption.

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